



UNITED STATES DEPARTMENT OF COMMERCE  
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APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO.
09/305,121	05/04/99	GUNAPALA	S 06816/065002

EXAMINER

MM92/0523

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RAJMEISTER, R  
ART UNIT PAPER NUMBER

2815 6

DATE MAILED: 05/23/00

This is a communication from the examiner in charge of your application.  
COMMISSIONER OF PATENTS AND TRADEMARKS

#### OFFICE ACTION SUMMARY

Responsive to communication(s) filed on 3/13/00

This action is FINAL.

Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 D.C. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 1 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

#### Disposition of Claims

Claim(s) 1, 3, 4, 9 & 11-20 is/are pending in the application.  
Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

Claim(s) \_\_\_\_\_ is/are allowed.

Claim(s) \_\_\_\_\_ is/are rejected.

Claim(s) \_\_\_\_\_ is/are objected to.

Claim(s) 1, 3, 4, 9 & 11-20 are subject to restriction or election requirement.

#### Application Papers

See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

The proposed drawing correction, filed on \_\_\_\_\_ is  approved  disapproved.

The specification is objected to by the Examiner.

The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. § 119

Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

All  Some\*  None of the CERTIFIED copies of the priority documents have been

received.

received in Application No. (Series Code/Serial Number) \_\_\_\_\_.

received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e).

#### Attachment(s)

Notice of Reference Cited, PTO-892

Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_

Interview Summary, PTO-413

Notice of Draftsperson's Patent Drawing Review, PTO-948

Notice of Informal Patent Application, PTO-152

-SEE OFFICE ACTION ON THE FOLLOWING PAGES-

Art Unit:

**DETAILED ACTION**

***Election/Restriction***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1, 3, 4 and 11-20<sup>1</sup>, drawn to QWIP, classified in class 257, subclass 21.
  - II. Claim 9, drawn to a QWIP/MUX circuit, provisionally classified in class 250, subclass 338.4.

2. The inventions are distinct, each from the other because of the following reasons:

Inventions II and I are related as combination (ABbr) and subcombination (ABsp). Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as

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<sup>1</sup>The Office questions whether claims 17-20, in fact, read on species I previously elected in the response entered 3/13/2000 (paper #5). Specifically, claim 17 as amended, recites that each photodetector is "...formed of alternating quantum wells of a first type and a second type with different active layers stacking to one another;..." It is unclear whether a plurality of only one of the two types of quantum wells are alternated with quantum barriers in each of the respective active layers (the elected invention), or whether the first type quantum well is alternated with the second type quantum well (non-elected species III). The former interpretation is provisionally presumed, but confirmation is required.

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claimed because the MUX can be employed with various disclosed embodiments, such as a dual QWIP array wherein the barrier heights of a stack's respective, individual QWIPs are the same (ABsp1: e.g.,  $Al_xGa_{1-x}As$  and  $Al_yGa_{1-y}As$ , wherein  $x = y$ ; as set forth in claims 11-13); or alternatively wherein the barrier heights of a stack's respective individual QWIPs are different (ABsp2: e.g.,  $Al_xGa_{1-x}As$  and  $Al_yGa_{1-y}As$ , wherein  $x \neq y$ ; as set forth in claims 15). The subcombination has separate utility such as a photodetector which does not employ a MUX.

3. Because these inventions are distinct for the reasons given above, the inventions have acquired a separate status in the art because of their recognized divergent subject matter as shown by their different classification, the search required for Group II is not required for Group I, and separate examination would be required, restriction for examination purposes as indicated is proper.

4. This application also contains claims directed to the following patentably distinct species of the claimed invention:

a. Species IA: an array of QWIP stacks wherein the barrier layers of one group of the stacks have the same composition as the barrier layers of the second group (i.e.,  $Al_xGa_{1-x}As$  and  $Al_yGa_{1-y}As$ , wherein  $x = y$ ), to which claims 11-13 are directed.

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b. Species IB an array of QWIP stacks wherein the barrier layers of one group of the stacks have a different composition than the barrier layers of the second group (i.e.,  $Al_xGa_{1-x}As$  and  $Al_yGa_{1-y}As$ , wherein  $x \neq y$ ), to which claim 15 is directed.

If Applicant chooses to prosecute the subcombination I, as set forth above, Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claims 1, 3, 4, 14, 16-20 are generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

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5. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

a. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

#### **INFORMATION ON HOW TO CONTACT THE USPTO**

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to the examiner, **B. William Baumeister**, whose telephone number is (703) 306-9165. The examiner can normally be reached Monday through Friday, 8:30 a.m. to 5:00 p.m. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

B. William Baumeister

May 12, 2000



DAVID HARDY  
PRIMARY EXAMINER